VOLUME 13 1991

SUBJECT INDEX

Acetone, 401, 407
Acetylcholine, 257
AChE, 91, 147
Acoustic reflex, 249
Acoustic startle response, 575
Acrylonitrile, 499
ACTH, 223
Activity, 641
Adenosine, 641
β-Adrenergic receptors, 43
Adult social behavior, 75
Alcohol, 69, 353, 377, 535, 611
Alcohol-related birth defects (ARBD), 357, 369
Aluminum citrate, 323
Aluminum hydroxide, 323
γ-Aminobutyric acid, 257
Amphetamine, 335, 649
Analgesia, 161
Anisotropy in cortex, 471
Anisotropy in hippocampus, 471
Anterior pituitary, 583
Aspartame, 27
Associative conditioning, 515
Ataxia, 91
Attention, 49, 369
Attention deficit disorder (ADD), 649
Attention deficit hyperactivity disorder (ADHD), 369
Audition, 249
Auditory, 189
Auditory deficits, 575
Auditory startle, 283, 297, 413
Australia, 353
Aversive event, 449
Avoidance conditioning, 559

Behavior, 167, 181, 369, 377, 407, 429, 449
Behavioral teratogen, 99
Behavioral teratology, 57, 161, 283, 441, 569
Behavioral toxicity, 489
Biel water maze, 317
Birth weight, 329
Blood lead level, 429
Body temperature, 21
Bone growth, 583
Brain, 147, 181, 611, 627
Brain damage, 583
Brain defects, 621
Brain growth spurt, 69
Brain mu opioid receptor, 495
Brain-stimulation reward, 175
Brain-swelling reaction, 407
Brainstem auditory-evoked response, 83
Breech presentation, 441

Cadmium, 657
Caffeine, 441, 641
Cannabis, 631
Carbaryl, 21
Carbon disulfide, 249
Carbon monoxide, 175
Carboxylesterase, 147
Catalepsy, 21, 649
Cell proliferation, 37
Cerebellum, 69
ChE, 147
Chick embryos, 147
Chickens, 147
Child development, 195, 229
Children, 5, 631
Chlordiazepoxide challenge, 75
Choline acetyltransferase, 241
Cholinesterase activity, 21
Cholinomimetic, 499
Chromodacryorrhea, 499
Cigarettes, 5
Citric acid, 323
Clonidine, 223
CNS-neurotoxicity, 407
Cocaine, 229, 335, 347, 377, 535, 541, 547, 553, 559, 621
Cochlea, 135
Cochlear nerve, 189
Cochlear nucleus, 189
Cognition, 203
Cognitive development, 57, 357
Concentration, 627
Conditioned avoidance, 657
Conditioned avoidance responses, 489
Conditioning, 167, 475
Congenital malformations, 347
Contrast, 449
Correlation, 181
Corticosterone, 223

DDT, 449
Defecation, 129
Degeneration, 189
Delayed toxicity, 91
Delta-9-THC, 245, 413
Dendritic branching, 461
Dependence, 43, 627
Development, 335, 611
Developmental, 43
Developmental neurotoxicology, 515, 525, 569
Developmental toxicity, 91, 161
Developmental toxicology, 283
Diazepam, 129
Dichlorofluorescein, 341
Diet, 429
Dioxin, 449
Discriminative avoidance learning, 167
Disector, 401
DOPA, 1
Dopamine, 1, 257
Dose-response relationship, 547
Dosing regimen, 569
Drug abuse, 347

Early lead exposure, 429
Early learning, 515, 525
Effects of escape assistance on learning, 213
Effects of maze complexity on learning, 213
Effects of path order on learning, 213
Electroconvulsive shock, 271
ELISA, 275
Embryotoxicity, 323
Emotionality, 641
Excitotoxicity, 189
Experimental protocol, 599
Exploration, 461, 475
Exploratory behavior, 553
Exposure periods, 569
Extinction, 475

F_1 reproductive assessment, 283, 297
FAS, 49
Female sexual receptivity, 531
Fetal, 181
Fetal alcohol effects, 57
Fetal Alcohol Syndrome, 57, 69, 357, 369, 649
Fetal development, 347
Fetal growth, 347
Fetal growth retardation, 329
Fetal movement, 503
Fetotoxicity, 323
Fetus, 43, 621
Food intake, 495
Foot splay, 387
Fortification, 353
Free radicals, 341

Gait analysis, 387
Ganglion cell, 135
Gestation, 377, 641
Gestational exposure, 13
Glial fibrillary acidic protein, 275
Glutamate, 189
Granule cell, 611
Grief counseling, 235
Growth and morphological characteristics, 455
Growth deficiency, 583, 591
Growth enhancement, 245
Growth hormone, 223
Growth hormone releasing factor, 591
Growth retardation, 153, 649
GTP cyclohydrolase, 483

Hair cell, 135
Halothane, 461
Hearing, 249
Hearing loss, 83, 135, 387
Hexane, 387
2,5-Hexanedione, 401, 407
5-HIAA, 13
Hippocampus, 241, 317
Hyperactivity, 317, 649
Hypothalamus, 591
Hypothalamic β-endorphin, 495

Iminodipropionitrile, 575
Immune, 223
Immunocytochemistry, 591
Impaired maze learning, 317
In utero, 181
In utero valproic acid and membrane anisotropy, 471
In vitro, 307
Infant, 329

Infant outcome, 455
Infant rats, 515, 525
Insecticide, 91
Interlaboratory comparison, 599

Japanese Segment II study, 283
Japanese Segment III study, 297

Korsakoff's psychosis, 353

Lacrimation, 499
Lactation, 641
Lake Ontario salmon, 449
Lead, 167, 203, 257, 429
Learning, 461
Learning and memory, 27
Limbic system, 525
Liver, 147
Locomotion, 649
Locomotor activity, 283, 297, 335
Long-term effect, 475
Long-term exposure, 475
Longitudinal studies, 441
Low level lead exposure, 417

Male rats, 267
Manganese neurotoxicity, 483
Marijuana, 329, 535
MAST, 535
Maternal aggression, 75
Maternal report, 535
Maternal serum prolactin, 297
Maternal substance use, 235
Membrane permeability, 257
Memory, 461
Mental retardation, 515, 525
Methadone, 43, 161, 627
5-Methoxy-N,N-dimethyl-tryptamine, 531
Methyl bromide, 1
Methyl mercury, 341
Methylazoxymethanol, 583, 591
Methylenedioxymethamphetamine (MDMA), 13
Metoclopramide, 223
Mitral cell, 611
Morphine, 161
Morphometric analysis, 181
Motor, 249
Motor ability, 69
Motor activity, 547, 553, 599
Motor dysfunction, 387, 575
Motor function, 21, 441
Mouse, 75, 283, 297
MPTP, 341

Naloxone, 161
Naltrexone, 37
Negative geotaxis, 283, 297
Neonatal Behavioral Assessment Scale, 455
Neonatal monosodium glutamate (M.S.G.), 507
Neonate, 229
Neural-behavioral relationships, 461
Neural dysmorphology, 307
Neurobehavioral development, 153
Neurobehavioral effects, 347
Neurobehavioral status, 5, 631
Neurobehavioral toxicity, 27
Neuroendocrine, 223
Neuromuscular, 249
Neuron size, 401
Neurons, 401
Neuroteratology, 583, 591
Neurotoxicity, 189, 341, 499
Neurotoxicology, 569, 599
Nicotine, 307
Nigro-striatal dopaminergic pathway, 483
Nociception, 21, 657
Norepinephrine, 1
NTE, 91, 147
Nucleator, 401

Obstetric complications, 455
Olfactory bulb, 611
Olfactory system, 515
Open field, 21
Open-field activity, 129
Operant behavior, 175
OPIDN, 91
Organic solvents, 401
Organismic variable, 599
Organometals, 515, 525
Organophosphate, 91
Organotin, 489
Osmotic minipumps, 161
Ototoxicity, 249
Oxidative stress, 341
Oxygen radicals, 341

Passive avoidance, 283
Passive smoking, 5
PCBs, 449
Pergolide mesylate (PERMAX®), 283, 297
Phenytoin-induced maze learning deficits, 213
Physical development, 357
Placenta, 43
Plasma, 147, 627
Play, 429
Polychlorinated dibenzofurans, 195
Polychlorobiphenyl compounds, 195
Postnatal growth, 245
Postnatal maturation, 377
Postnatal mortality, 377
Postweaning housing environment, 507
Pregnancy, 5, 229, 329, 347, 357, 369, 441, 553, 559, 621, 631
Pregnancy, animal, 541, 547
Pregnancy outcome, 441
Prenatal, 245, 413
Prenatal alcohol, 49, 531
Prenatal alcohol exposure, 357, 369
Prenatal cocaine effects, 503
Prenatal cocaine use, 455
Prenatal drug exposure, 377
Prenatal ethanol, 267
Prenatal exposure, 99, 657
Prenatal exposure delayed effects, 541, 547, 553, 559
Prenatal lead exposure, 417
Prenatal nicotine exposure, 271
Prenatal oxazepam exposure, 75
Prenatal phenytoin in rats, 213
Prenatal stress, 129
Prenatal valproic acid, 471
Preschool children, 203
Preschool growth, 417
Progeny, 153
Prolactin, 223
Propylthiouracil, 317
Protein malnutrition, 153

Radial arm maze, 317
Radiation, 181
Rat, 83, 135, 181, 223, 241, 245, 317, 323, 377, 387, 401, 407, 413, 449, 471, 475, 489, 553, 575, 611, 621, 641
Rat brain, 1, 13, 37
Rat embryo, 307
Rat pups, 13
Reactive synaptogenesis, 241
Reference memory, 317
Retention, 167
Reversible hypothyroidism, 317
Rhesus monkey, 429
Rotarod, 69

Salivation, 499
SCH-23390, 649
Sensorimotor function, 27
Sensory-evoked potentials, 83
Serotonin, 13, 531
Sex differences, 649
Sexual orientation, 267
Sexual preference, 267
SIDS, 621
Slot-immunobinding assays, 275
Social development, 429
Sodium-potassium ATPase, 257
Solvent abuse, 387
Solvents, 475
Soman, 223
Somatotropin release inhibiting factor, 591
Spatial orientation perception, 559
Spatial working memory, 525
Spontaneous motor activity, 489
Startle, 249
Startle reaction, 541, 547, 553
Stereology, 401
Stereotypy, 649
Striatal dopamine synthesis, 483
Styrene, 153
Substance abuse during pregnancy, 535
Substance use, 329
Sudden Infant Death Syndrome, 235
Synaptic density, 461
Synaptic membrane order, 471
Synaptosomal 5-HT uptake, 407
Synaptosomes, 257

Tadpoles, 167
Teratogen, 307
Teratogenicity, 323
Teratogens, 195
Teratology, 377, 503, 621
2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin, 495
Tetraethyllead, 257
Tetrahydrobiopterin cofactor, 483
Thiamin, 353
Threshold procedure, 175
Toluene, 341, 387, 475
Total neuron number, 401
Transmitter release, 257
Tributyltin, 99
Tributyltin chloride, 489
Trichloroethylene, 83
Triethyllead, 257
Triethyltin, 515
Trihexyltin, 99
Trimethyltin, 135, 241, 341, 525
Two-way active shuttle avoidance, 297
Two-way shuttle avoidance, 283
Tyrosine hydroxylase, 1
Tyrosine hydroxylation, 483

Umbilical cord, 503

Unbiased, 401
Undernutrition, 245
Underreporting, 535

Valproate-induced reduction in membrane order, 471
Veratridine, 257
Vigilance, 49

Water loss, 475
Water maze learning, 213
Wernicke's encephalopathy, 353
Within-laboratory reliability, 599
Within-laboratory variability, 599
Working memory, 317

X-irradiation, 37

Young and mature rats, 21

AUTHOR INDEX

Abarca, J., 483
Acuff-Smith, K. D., 213
Ager, J. W., 57, 535
Ahmed, A. E., 499
Akaike, M., 317
Ali, S. F., 13
Alleva, E., 75
Archer, T., 99
Arlien-Søborg, P., 401, 407

Banks, A. N., 245, 413
Barr, H. M., 441
Barron, S., 503
Berger, O. G., 203
Bernton, E. W., 223
Bestervelt, L. L., 495
Beveridge, I. J., 641
Bignami, G., 75
Bond, N. W., 353
Bondy, S. C., 341
Bonthius, D. J., 611
Bornschein, R. L., 203
Bowman, R. E., 429, 461
Boyd, T. A., 49, 57
Brake, S. C., 245, 413
Britos, S. A., 271
Brown, R. T., 357, 369
Brown-Woodman, P. D. C., 621
Buelke-Sam, J., 283, 297
Bushnell, P. J., 429
Byrd, R. A., 283

Cai, Y., 495
Campbell, D., 229
Cannon, R. L., 241
Church, M. W., 377
Clerici, W. J., 249
Cohen, I. R., 297
Coles, C. D., 357, 369
Cooper, G. P., 257
Cornelius, M., 329
Crofton, K. M., 575, 599

Dahlgren, I. L., 267
Daly, H. B., 449
Daniels, A. J., 483
Danielsson, B., 99
Danielsson, K., 99
Darmani, N. A., 43, 627
Day, N. L., 329, 455
Day, V. L., 83
De Acetis, L., 75
Dick, L. S., 245, 413
Dietrich, K. N., 203
Domingo, J. L., 323
Dow-Edwards, D. L., 335, 347
Dreosti, I. E., 307
Duffy, J. S., 91
Duhart, H. M., 13

Elshabrawy, O., 499
Ema, M., 489
Enters, E. K., 161
Erickson, S., 357, 369
Ernhart, C. B., 49, 57, 417
Evans, H. L., 565

Falek, A., 357, 369
Farage-Elawar, M., 91, 147
Farooqui, M. Y. H., 499
Fechter, L. D., 135, 249
Fein, H. G., 223
Fico, T. A., 245
Fisher, K. N., 507
Forkman, B. A., 475
Foss, J. A., 503, 541, 547, 553, 559
Fountain, S. B., 175
Francis, B. M., 91
Fredriksson, A., 99
Fried, P. A., 5, 631
Fuchs, B., 43
Fulginiti, S., 531

Gaines, J., 235
Gårdlund, A. T., 99
Ghanayem, B. I., 499
Gill, M. W., 599
Gladen, B. C., 195
Gomez, M., 323
Goodlett, C. R., 69
Greene, J., 229
Greene, T. H., 49, 57, 417
Guo, H., 161

Hamel, S. C., 229
Hammond, P. B., 203
Hanig, J. P., 153
Hannigan, J. H., 649
Hård, E., 267
Hitzemann, R. J., 471
Hochberg, E., 229
Hoeffding, V., 135
Höglund, G., 475
Holmes, P. A., 377
Holson, R. R., 13
Homewood, J., 353
Hong, J. S., 27
Honma, T., 1
Hoover, D. B., 241
Howard, J. L., 599
Hsu, C.-C., 195
Hughes, H. E., 335
Hughes, R. N., 641
Husain, R., 153
Hutchings, D. E., 245, 413

Itami, T., 489

Jacobson, J. L., 535
Jacobson, S. W., 535
Janssen, R., 189
Jasperse, D., 329
Jensen, K. F., 189, 525
Jhon, Y., 329
Johnson, A-C., 475
Johnson, J. A., 283
Joschko, M. A., 307

Kandall, S. R., 235
Kant, G. J., 223
Kaplan, M. G., 535
Kates, B., 583, 591
Kato, N., 317
Kawasaki, H., 489
Khanna, V. K., 153
Kimler, B. F., 181
Kleim, J., 507
Knight, T., 575
Ko, D., 161
Kobayashi, T., 317

Ladefoged, O., 401, 407
Lam, H. R., 401, 407
Larsen, J.-J., 401, 407
Laughlin, N. K., 429
Laviola, G., 75
LeBel, C. P., 341
Levin, E. D., 461
Lima, T. C. M., 21
Lindqvist, N.-G., 99
Lindström, H., 99
Lipson, A. H., 621
Ljungberg, T., 475
Llobet, J. M., 323
Luthman, J., 99

McMillan, D. E., 121

MacPhail, R. C., 599
Maimansomsuk, P., 495
Makin, J., 5
Martier, S., 49, 57, 535
Martin, B. R., 43, 627
Matteucci, M. J., 83
Miaskowski, U., 37
Minck, D. R., 213
Minetti, S. A., 531
Minnema, D. J., 257
Miyagawa, M., 1
Møller, A., 401, 407
Morato, G. S., 21
Moser, V. C., 599
Mougey, E. H., 223
Mousigian, C. A., 495
Mullenix, P. J., 181
Mumtaz, M. M., 499

Nelson, B. K., 569
Nero, T. J., 413
Neuspiel, D. R., 229
Nolan, C. J., 495
Norton, S., 181
Nylén, P., 475

O'Callaghan, J. P., 275
O'Connell, C. M., 631
Ohno, H., 317
Orsingher, O. A., 271
Overbeck, G. W., 377
Owen, N. V., 283, 297

Pandey, U., 161
Pelletier, M. R., 657
Pickens, C. V., 525
Pilati, M. L., 649
Pineault, G., 507
Piper, W. N., 495
Platzman, K. A., 357, 369
Pohorecky, L. A., 129
Poli, A., 21
Pringle, G. F., 335
Pryor, G. T., 83, 387

Rauch, S. L., 471
Rebert, C. S., 83
Reiter, L. W., 599
Richardson, G. A., 329, 455
Riley, E. P., 503, 541, 547, 553, 559
Ritchie, H. E., 621
Roberts, P., 129
Robinson, S. E., 161
Robles, N., 329
Rodier, P. M., 583, 591
Rogan, W. J., 195
Rowan, J. D., 175

Saady, J. J., 627
Saari, M. J., 507
Sambamoorthi, U., 329
Satinder, K. P., 657
Sato, M., 1
Scalzo, F. M., 13
Schamer, M. M., 257
Scher, M., 329
Schmahl, W., 37
Schnoll, S. H., 43, 627
Schweitzer, L., 189
Scribani, L. A., 335
Seth, P. K., 153
Shih, T.-M., 223
Silverstein, J., 369
Slikker, W., Jr., 13
Smallridge, R. C., 223

Smith, I. E., 357, 369
Sobotka, T. J., 27
Sokol, R. J., 49, 57, 535
Ståhle, L., 475
Stanton, M. E., 515, 525
Stoffer, D., 329
St. Omer, V. E. V., 13
Strange, P., 401, 407
Streissguth, A. P., 441
Strickler-Shaw, S., 167
Succop, P. A., 203
Takahashi, R. N., 21
Taylor, D. H., 167
Taylor, P., 329
Thomas, J. D., 69
Tilak, J. P., 377
Tilson, H. A., 27, 599
Tizzano, J. P., 283, 297
Tulsi, R. S., 307
Turner, R. A., 507
Uemura, E., 461
Ungerstedt, U., 475
Vega Matuszczyk, J., 267
Vorhees, C. V., 213, 471
Watkinson, B., 5
Webster, W. S., 621
Weisenburger, W. P., 213
West, J. R., 69, 611
White, A. L., 583, 591
White, W. A., 583
Woodruff, M. L., 241
Yu, M.-L., 195
Zajac, C. S., 377
Zanin, M., 21
Zmitrovich, A. C., 413